

# BERYLLIUM

## WORKER SAFETY

### Beryllium Worker Safety - Module 6 Controls Transcript

- Fred Algarra** Using these controls is very hard. It's very time consuming.
- Paul Brunner** The changing in and out of clothes, the showering, going through all the barriers.
- Fred Algarra** A job that used to take us 15 minutes, you know, right now is taking us three or four hours.
- Paul Brunner** A very simple job can become a lot more complicated, just because of the fact that you have to take so many precautions to keep exposures down.
- Fred Algarra** The main thing is for the protection of the employees.
- Kathryn Creek** We use a standard hierarchy of controls with beryllium operations. We start with engineering controls, we use administrative controls, and lastly, we use personal protective equipment. Every operation is unique and has its own control. You can't use one ventilation technique for every operation.
- Steve Abeln** We use a lot of ventilation, also, to capture the particulate at the point of generation and take it away.
- Paul Brunner** All the dust...all the particulates carried away in a real efficient manner right at the tool...and it never has a chance to escape out into the breathing zone.

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- Steve Abeln** The wet method mostly comes into play when you're doing custodial work and wiping down equipment and cleaning up after your operation.
- Paul Brunner** There are times that we do cleaning, and it's all done wet.
- Kathryn Creek** What you do is you put it on a piece of fabric or a paper towel first, and then you wipe it down. That's considered an appropriate wet method.
- Steve Abeln** An isolation can go two different ways. You can have a normal operation where you go work in a glove box, and that's an isolation technique. A lot of times you'll have maintenance operations that you'll have to use a glove bag...essentially design a glove bag to isolate the hazard from the worker.
- Kathryn Creek** We limit access to our facility using badge readers. So only beryllium workers are allowed to come into the facility.
- Fred Algarra** We don't want to have too many people involved in the beryllium facility. Basically we try to minimize that.
- Kathryn Creek** That's the most bang we can get for our buck...is by limiting the number of workers that are potentially exposed.
- Steve Abeln** The signs are important to the people inside the facility, because they delineate areas that require a respirator and don't.
- Paul Brunner** For the people that work in the building who aren't beryllium workers, it's very important for them to heed the warnings on signs.

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- Steve Abeln** If a worker — a general worker — sees that sign warning of beryllium, stay away. There is absolutely no reason to go in there.
- Paul Brunner** Labeling is important. We have to make sure everything is properly labeled.
- Steve Abeln** When you store beryllium, it definitely has to be marked. It has to be labeled so people understand that they are going to open up this package that there's beryllium in there.
- Kathryn Creek** We have a ventilation alarm and a fire alarm. The ventilation alarm is for when the facility's ventilation system goes down; and workers are trained to shut down their operations safely and go into the support zone and wait for further information.
- Paul Brunner** Housekeeping — we have to do some of the housekeeping, both on our machines and around them — work benches, things of that nature. Storage — we have a lot of material that we have to store. We have to insure that it's kept in a safe manner and that it can't get wet. Waste issues — we have to sometimes prepare waste or just see that it's handled properly.
- Fred Algarra** You have to go through all the training. That's the main thing. Start going through all the training and learn...
- Kathryn Creek** what beryllium is, what the roots of exposure are, that there are risks working with beryllium.
- Steve Abeln** The best possible training that you can get is on-the-job training.
- Kathryn Creek** And then there really should be some sort of mentoring, so that workers work together, the older with the newer.

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**Steve Abeln** Personal protective equipment is again important because we use it primarily to protect the family members at home, and we don't want to take it home.

**Kathryn Creek** So we want to make sure that beryllium stays at our location and it doesn't go home, it doesn't go in people's cars.

**Paul Brunner** There's a full change out, and then we have to shower out when we're done. That insures that we don't take it home.

**Steve Abeln** We have our own laundry within the facility. And we designed it that way specifically so that we did not send contamination out to another facility. We have company-supplied underwear, then we give them surgical scrubs to wear around. That's essentially their modesty clothing that they can wear around when they're not actually working, and then over that goes a pair of coveralls. And then we use gloves where gloves are appropriate, and respirators where respirators are appropriate.

**Paul Brunner** We do personal air monitoring daily. Any time we enter the shop, we wear personal air monitors.

**Steve Abeln** We do full time monitoring on the people on the lapel in their breathing zone.

**Paul Brunner** The personal, sampling pump is just a small pump, probably four by six inches, that hangs off of a belt behind you; and it has a hose coming up over your shoulder that has a small filter cassette, and that's where any beryllium that might be in the air is gathered. And then they do an analysis of it to determine what your exposure level was.

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- Kathryn Creek** The area air sample is set in a location. There's two actual types of area samples. There's an operational specific area sample that is put close to an operation, and then there's a general room area sample.
- Paul Brunner** Surface sampling – the industrial hygienists do a lot of it, both on our equipment and on our floors and walls to make sure that we're not getting beryllium out where it shouldn't be, and also on anything that has to leave the facility.
- Steve Abeln** Surface sampling is important just from the standpoint of... again, you want to keep the material off your skin and out of your breathing zone.
- Fred Algarra** They take a swipe and they check it out, and then you get the results.
- Steve Abeln** If your surfaces are dirty, you obviously brush up, you touch those surfaces, and then you have the hand to mouth, hand to nose movement that could potentially be a route of entry for beryllium in your lung. So we try to keep all accessible surfaces extremely clean.
- Fred Algarra** One of the things that I encourage my people is to make sure that if you are not comfortable doing any type of job, whether it's in the beryllium shop, uranium shop, or any place — if you are not comfortable doing it, just stop and don't do it until you are comfortable.
- Kathryn Creek** Workers have some control over their exposure risk. If they feel that their exposure risk is too high, even if the exposures are non-detect, they should know that they can wear a respirator at any time. And if that makes them feel better about what they're

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doing, they should do it. And they shouldn't have to worry about other workers and what the workers say about people who are using added precautions.

**Paul Brunner** Everyone just has to realize that everybody has a job to do there, and we have to all work together to make sure it's done safely.

**Kathryn Creek** It's the team building that is the most effective.

**Steve Abeln** In basically sending staff members and technicians out to do the work, you want to make sure that you've got the best staff there is to help support their health and safety.

**Kathryn Creek** I think the industrial hygienist is most effective when they actually are working with a worker on a daily basis. They know how the worker works, they know their habits.

**Steve Abeln** And you want to communicate all your knowledge to them. You don't hold anything back, you know, you tell them about the genetic testing, you know, you tell them about the particle signs. You tell them everything that we're learning as a community in trying to solve this problem that's cutting edge, and then let them make their own decisions.

**Kathryn Creek** I don't think that any question's too small, or any piece of detail, actually. I think workers need to be very particular to detail.

**Fred Algarra** There's a lot of people that feel that if I'm going to complain about something, they're going to retaliate against me. Well, let's face it, you know, that's a mentality that we had to put aside.

**Kathryn Creek** A new beryllium worker should evaluate whether they want to work with a material where there are still some unknowns.



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**Fred Algarra** I think the employee should ask everything, anything that comes to their mind. What's going to happen to me? What's going to happen to my family?

**Kathryn Creek** We are obligated to our family to let them know what our risks are. And if our family feels that that is not acceptable, then we should choose alternative work.

**Fred Algarra** I think the employee should ask all these questions. It's important for them, because it's their life, their livelihood.

**Steve Abeln** If there's a piece of advice I can give to a beryllium worker, it's make your industrial hygienist your best buddy. Because you want to be a beryllium hygienist by the time you're ready to go and work alone.

**Kathryn Creek** If workers can understand industrial hygiene practices well enough to control their exposures, I've done my job. If they know when to ask for help, instead of waiting until they have an exposure situation, then I've done my job.

**Paul Brunner** I guess if there's one message I'd like to get across to beryllium workers and people who are just becoming beryllium workers is to learn all you can about it. Learn all the different requirements, all the safety requirements that are there for your protection, and adhere to them.

**Fred Algarra** The message that I'd like to send to everyone is follow the rules.

**William Van Buskirk** I would advise any person working beryllium today, regarding safeguards, to do it by the book. Unfortunately, there was no book for me.